Amendments to the Claims

Pursuant to 37 C.F.R. § 1.121(c), this listing of claims will replace all prior versions, and listing of claims in the application:

1-50. (canceled)

51. (new) A method for use in deriving chemical structural information, comprising the steps of:

acquiring a chemical name;

dividing the name into a series of text string fragments;

associating each text string fragment with at least one data object known as a nomToken, wherein each nomToken comprises a connection table, a locant map, an attach-in map, and an attach-out map and wherein each nomToken is classified by Type and Subtype;

consolidating the list of nomTokens into a smaller list that contains fewer nomTokens; and

repeating the consolidating step until only one nomToken remains, wherein the connection table of the remaining nomToken corresponds to the structure of the chemical name.

52. (new) The method of claim 51, further comprising the steps of:

deriving a graphical representation of the structure of the chemical name from the connection table of the single remaining nomToken; and

presenting the graphical representation of the structure to the user in the form of output.

53. (new) The method of claim 51, wherein the consolidating step further comprises the steps of:

examining the environment of each nomToken to determine the Type of each nomToken, the Subtype of each nomToken and the identity of other nearby nomTokens; and

determining if the Type and Subtype combination of each nomToken is compatible with the environment; and

joining two or more nomTokens into a single replacement nomToken, wherein the connection table, locant map, attach-in map, and attach-out map of each nomToken are used to create an appropriate connection table for the replacement nomToken when the Type and Subtype combination of each nomToken is compatible with the environment.

54. (new) A method for use in deriving chemical structural information, comprising the steps of:

a) acquiring a chemical name;

b) dividing the name into a series of text string fragments;

c) associating each text string fragment with at least one data object known as a nomToken, wherein

each nomToken comprises a connection table, a locant map, an attach-in map, and an attach-out map, and wherein

each nomToken is initially classified by the highest Type and Subtype appropriate for the text string from a ranked list of Types and Subtypes;

d) examining the nomTokens for each of a series of environments;

e) for each identified environment, modifying the associated nomTokens, wherein the modifying step comprises:

i) combining two or more nomTokens into a single replacement nomToken;

ii) converting one or more nomTokens to the next highest ranked nomTokens of identical name;

f) repeating steps d) and e) until all environments have been examined, wherein for each successive repeating step, the environment is examined for the next highest nomToken.

55. (new) The method of claim 54, wherein two or more nomTokens are combined into a single replacement nomToken when an environment is identified.

56. (new) The method of claim 54, wherein one or more nomTokens is converted to the next highest ranged nomToken when an environment is not identified.

57. (new) The method of claim 54 wherein each environment is described by the relative arrangement, Type and Subtype of nomTokens in the chemical name.

58. (new) The method of claim 51 or 54 further comprising the step of:

identifying one or more text string fragments that represent the root portion of the chemical name;

examining the remaining fragments of the text string fragment for fragments that directly modify the root portion of the chemical name.

59. (new) The method of claim 51 or 54 further comprising the step of:

preprocessing the chemical name to standardize formatting, wherein the preprocessing step precedes the dividing step.

60. (new) The method of claim 59, wherein the preprocessing step further comprises one or more of the following steps:

converting the name to all lower-case characters;

identifying and correcting typographical errors;

spelling out uncommon characters of chemical significance; and

determining if the chemical name is inverted and converting the chemical name to a corresponding uninverted form.

61. (new) The method of claim 51 or 54, wherein the associating step further comprises the step of:

examining the list of nomTokens sequentially to determine wither one or more adjacent nomTokens can be concatenated into a buildable nomToken.

62. (new) Computer software, residing on a computer-readable storage medium, comprising a set of instructions for use in a computer system to help cause the computer system to derive chemical structural information, the instructions causing the system to:

acquire a chemical name;

divide the name into a series of text string fragments;

associate each text string fragment with at least one data object known as a nomToken, wherein each nomToken comprises a connection table, a locant map, an attach-in map, and an attach-out map and wherein each nomToken is classified by Type and Subtype;

consolidate the list of nomTokens into a smaller list that contains fewer nomTokens; and

repeat the consolidating step until only one nomToken remains, wherein the connection table of the remaining nomToken corresponds to the structure of the chemical name.

63. (new) The computer software of claim 62, further comprising instructions for use in a computer system to help cause the computer system to:

derive a graphical representation of the structure of the chemical name from the connection table; and

present the graphical representation of the structure to the user in the form of output.

64. (new) The computer software of claim 62, further comprising instructions for use in a computer system to help cause the computer system to:

examine the environment of each nomToken to determine the Type of each nomToken, the Subtype of each nomToken and the identity of other nearby nomTokens;

determine if the Type and Subtype combination of each nomToken is compatible with the environment; and

join two or more nomTokens into a single replacement nomToken, wherein the connection table, locant map, attach-in map, and attach-out map of each nomToken are used to create a new connection table for the replacement nomToken when the Type and Subtype combination of each nomToken is compatible with the environment.

65. (new) Computer software, residing on a computer-readable storage medium, comprising a set of instructions for use in a computer system to help cause the computer system to derive chemical structural information, the instructions causing the system to:

a) acquire a chemical name;

b) divide the name into a series of text string fragments;

c) associate each text string fragment with at least one data object known as a nomToken, wherein

each nomToken comprises a connection table, a locant map, an attach-in map, and an attach-out map, and wherein

each nomToken is classified by the highest Type and Subtype appropriate for the text string from a ranked list of Types and Subtypes;

d) examine the nomTokens for each of a series of environments;

e) for each identified environment, modify the associated nomTokens, wherein the modifying step comprises:

i) combine two or more nomTokens into a single replacement nomToken;

ii) convert one or more nomTokens to the next highest ranked nomToken of identical name;

f) repeat steps d) and e) until all environments have been examined, wherein for each successive repeating step, the environment is examined for the next highest nomToken.

66. (new) The computer software of claim 65, wherein two or more nomTokens are combined into a single replacement nomToken when an environment is identified.

67. (new) The computer software of claim 65, wherein one or more nomTokens is converted to the next highest ranged nomToken when an environment is not identified.

68. (new) The method of claim 65, wherein each environment is described by the relative arrangement, Type and Subtype of nomTokens in the chemical name.

69. (new) The computer software of claim 62 or 65, further comprising instructions for use in a computer system to help cause the computer system to:

identify one or more text string fragments that represent the root portion of the chemical name; and

examine the remaining fragments for those that directly modify the root portion of the chemical name.

70. (new) The computer software of claim 62 or 65 further comprising instructions for use in a computer system to help cause the computer system to:

preprocess the chemical name to standardize formatting, wherein the preprocessing step precedes the dividing step.

71. (new) The computer software of claim 70, wherein the preprocessing function further comprises instructions for use in a computer system to help cause the computer system to:

convert the name to all lower-case characters;

identify and correcting typographical errors;

spell out uncommon characters of chemical significance; and

determine if the chemical name is inverted and converting the chemical name to its uninverted form.

72. (new) The computer software of claim 62 or 65, wherein the associating step further comprises instructions for use in a computer system to help cause the computer system to:

examine the list of nomTokens sequentially to determine wither one or more adjacent nomTokens can be concatenated into a buildable nomToken.